CLAIMS

What is claimed is:

1. A turf reinforcement mat comprising:

at least one polymer net layer;

a non-woven mat comprising a plurality of multi-dimensional polymer fibers; and,

a polymer yarn, stitching said net layer to said non-woven mat.

2. The turf reinforcement mat of claim 1, wherein said multi-dimensional polymer fiber has at least three edges and at least three channels.

3. The turf reinforcement mat of claim 1, wherein said multi-dimensional polymer fiber is selected from the group consisting of polyolefins, polyesters, polyamides and blends thereof.

4. The turf reinforcement mat of claim 1, wherein said multi-dimensional fibers have a length from about 2 inches (5 cm) to about 12 inches (30 cm).

5. The turf reinforcement mat of claim 1, wherein said multi-dimensional polymer fiber has a density of from about 300 denier (333 decitex) to about 2000 denier (2222 decitex).

6. The turf reinforcement mat of claim 5, wherein said multi-dimensional polymer fiber has a density of from about 500 denier (555 decitex) to about 1100 denier (1222 decitex).

7. The turf reinforcement mat of claim 1, wherein the polymer of set net layer is selected from the group consisting of polyolefins, polyesters, polyamides and blends thereof.

8. The turf reinforcement mat of claim 1, further comprising a second polymer net layer, said non-woven mat being located between said first and second nets.

9. The turf reinforcement mat of claim 1, wherein the tensile strength of the turf reinforcement mat is at least 30% greater than the tensile strength of an otherwise identical turf reinforcement mat having round multi-dimensional polymer fibers.

10. A method for erosion control and revegetation facilitation comprising:
providing a turf reinforcement mat comprising
at least one polymer net layer,
a non-woven mat comprising a plurality of multi-dimensional polymer fibers; and,
a polymer yarn, stitching said net layer to said non-woven mat;
laying said turf reinforcement mat on a section of ground to be reinforced;
securing said turf reinforcement mat to the ground;
distributing soil and seed onto said turf reinforcement mat such that the section of ground is quickly revegetated and thereby protected from further erosion.

11. A method for erosion control and revegetation facilitation as set forth in claim 10, wherein said multi-dimensional polymer fiber has at least three edges and at least three channels.

12. A method for erosion control and revegetation facilitation as set forth in claim 10, wherein said multi-dimensional polymer fiber is selected from the group consisting of polyolefins, polyesters, polyamides and blends thereof.

13. A method for erosion control and revegetation facilitation as set forth in claim 10, wherein said multi-dimensional fibers have a length from about 2 inches (5 cm) to about 12 inches (30 cm).

14. A method for erosion control and revegetation facilitation as set forth in claim 10, wherein said multi-dimensional polymer fiber has a density of from about 300 denier (333 decitex) to about 2000 denier (2222 decitex).

15. A method for erosion control and revegetation facilitation as set forth in claim 14, wherein said multi-dimensional polymer fiber has a density of from about 500 denier (555 decitex) to about 1100 denier (1222 decitex).

16. A method for erosion control and revegetation facilitation as set forth in claim 10, wherein the polymer of set net layer is selected from the group consisting of polyolefins, polyesters, polyamides and blends thereof.

17. A method for erosion control and revegetation facilitation as set forth in claim 10, further comprising a second polymer net layer, said non-woven mat being located between said first and second nets.